

AMENDMENTS TO THE CLAIMS:

Please amend claims 9, 24, 29, and 32 as indicated below. This listing of claims will replace all prior versions and listings of claims in the application:

1. (Original) A method for controlling data transferring, said method comprising the steps of:

temporarily storing frames of slots received via an input port of a switch in three or more frame buffers;

providing a write pointer designating which one of said three or more frame buffers that is currently used for storing a frame of slots that is currently received via said input port;

providing a read pointer designating which one of said three or more frame buffers that is currently used for reading data to be transmitted from an output port of said switch;

advancing said write pointer into designating a next one of said three or more frame buffers in a round-robin fashion as a result of each occurrence of a first signal that is related to the start of a next frame of slots that is received via said input port;

advancing said read pointer into designating a next one of said three or more frame buffers in a round-robin fashion as a result of each occurrence of a second signal that is related to the start of a next frame of slots to be transmitted from said output port;

initiating said pointers by detecting which one of said first signal and said second signal that is received first in time and adjusting one or both of said pointers so that, if said first signal is received first, the frame buffer designated by said write pointer is at least two frame buffers ahead, in said round-robin fashion, of the frame buffer

designated by said read pointer, or, if said second signal is received first, the frame buffer designated by said read pointer is at least two frame buffers ahead, in said round-robin fashion, of the frame buffer designated by said write pointer.

2. (Original) A method as claimed in claim 1, wherein the initiating step is performed individually for each input/output port combination of a switch having at least one input port and one or more output ports.

3. (Previously Presented) A method as claimed in claim 1, further comprising determining an entering into a state of possible frame buffer inconsistency caused by said write pointer being advanced into designating the same frame buffer as the frame buffer designated by said read pointer.

4. (Original) A method as claimed in claim 3, comprising affecting, as a result of said entering into said state of possible frame buffer inconsistency, one or both of said pointers so that the frame buffer designated by said write pointer is at least two frame buffers ahead, in said round-robin fashion, of the frame buffer designated by said read pointer.

5. (Original) A method as claimed in claim 3, comprising: detecting, in said state of possible frame buffer inconsistency, if said write pointer is advanced into designating a next one of said frame buffers as a result of reception of said first signal; and, if so, causing a buffer consistency violation event.

6. (Original) A method as claimed in claim 3, comprising: detecting, in said state of possible frame buffer inconsistency, if the frame buffer designated by said read pointer is accessed for retrieval of time slot data to be transmitted from said output port; and, if so, causing a buffer consistency violation event.

7. (Previously Presented) A method as claimed in claim 5, wherein said causing a buffer consistency violation event comprises affecting one or both of said pointers so that the frame buffer designated by said write pointer is at least two frame buffers ahead, in said round-robin fashion, of the frame buffer designated by said read pointer.

8. (Original) A method as claimed in claim 3, comprising: detecting, in said state of possible frame buffer inconsistency, if said read pointer is advanced into designating a next one of said frame buffers as a result of reception of said second signal; and, if so, determining said state of possible frame buffer inconsistency as being at least temporarily eliminated.

9. (Currently Amended) A method as claimed in claim 1, further comprising determining an entering into [[of]] a state of possible frame buffer inconsistency caused by said read pointer being advanced into designating the same frame buffer as the frame buffer designated by said write pointer.

10. (Original) A method as claimed in claim 9, comprising affecting, as a result of said entering into said state of possible frame buffer inconsistency, one or both of said pointers so that the frame buffer currently designated by said read pointer is at least two frame buffers ahead, in said round-robin fashion, of the frame buffer designated by said write pointer.

11. (Original) A method as claimed in claim 9, comprising: detecting, in said state of possible frame buffer inconsistency, if said read pointer is advanced into designating a next one of said frame buffers as a result of reception of said second signal; and, if so, causing a buffer consistency violation event.

12. (Original) A method as claimed in claim 9, comprising: detecting, in said state of possible frame buffer inconsistency, if the frame buffer designated by said write pointer is accessed for storing a frame of data that is currently received via said input port; and, if so, causing a buffer consistency violation event.

13. (Previously Presented) A method as claimed in claim 11, wherein said causing a buffer consistency violation event comprises affecting one or both of said pointers so that the frame buffer designated by said read pointer is at least two frame buffers ahead, in said round-robin fashion, of the frame buffer designated by said write pointer.

14. (Original) A method as claimed in claim 9, comprising:
detecting, in said state of possible frame buffer inconsistency, if said write pointer is advanced into designating a next one of said frame buffers as a result of reception of said first signal; and, if so,

determining said state of possible frame buffer inconsistency as being at least temporarily eliminated.

15. (Previously Presented) A method as claimed in claim 4, 7, 10, 13, 27, 28, 29, or 30, comprising generating, if said affecting is performed, a signal indicating that a frame slip has occurred.

16. (Previously Presented) A method as claimed in claim 15, wherein said affecting of one or more of said pointers comprises affecting only said read pointer.

17. (Original) A method for controlling data switching, said method comprising the steps of:

temporarily storing frames of slots received via an input port of a switch in three or more frame buffers;

providing a write pointer designating which one of said three or more frame buffers that is currently used for storing a frame of slots that is currently received via said input port;

providing a read pointer designating which one of said three or more frame buffers that is currently used for reading data to be transmitted from an output port of said switch;

advancing said write pointer into designating a next one of said three or more frame buffers in a round-robin fashion as a result of each reception of a first signal that is related to the start of a next frame of slots that is received via said input port;

advancing said read pointer into designating a next one of said three or more frame buffers in a round-robin fashion as a result of each reception of a second signal that is related to the start of a next frame of slots to be transmitted from said output port;

determining if one of said pointers is advanced into designating the same frame buffer as the frame buffer designated by the other one of said pointers, thereby causing a state of possible frame buffer inconsistency.

18. (Original) A method as claimed in claim 17, comprising detecting, in said state of possible frame buffer inconsistency, an event implying an actual buffer consistency violation.

19. (Original) A method as claimed in claim 17, comprising affecting, if said event is detected, one or both of said pointers so that the frame buffer designated by

the pointer that was advanced last is at least two frame buffers ahead, in said round-robin fashion, of the frame buffer designated by the other pointer.

20. (Original) A method as claimed in claim 18, comprising generating, if said event is detected, a signal indicating that a buffer consistency violation has occurred.

21. (Original) A method as claimed in claim 18, comprising generating, if said event is detected, a signal indicating that a frame slip has occurred.

22. (Original) A method as claimed in claim 19, wherein said affecting of one or more of said pointers comprises affecting only said read pointer.

23. (Original) An apparatus for switching data between ports of said apparatus, said apparatus comprising:

storage means providing three or more frame buffers to be used for temporarily storing frames of slots received via an input port of said apparatus;

write pointer means for designating which one of said three or more frame buffers that is currently used for storing a frame of slots that is currently received via said input port, said write pointer means being arranged to advance to designate a next one of said three or more frame buffers in a round-robin fashion as a result of each reception of a first signal that is related to the start of a next frame of slots that is received at said input port;

read pointer means for designating which one of said three or more frame buffers that is currently used for reading data to be transmitted from an output port of said apparatus, said read pointer means being arranged to advance to designate a next one of said three or more frame buffers in a round-robin fashion as a result of each

reception of a second signal that is related to the start of a next frame of slots to be transmitted from said output port; and

control means for controlling the operation of said pointer means, said control means being arranged initiate said read pointer means by detecting which one of said first signal and said second signal that is received first in time after a selected point in time and to control one or both of said pointer means so that, if said first signal is received first, the frame buffer designated by said write pointer means is at least two frame buffers ahead, in said round-robin fashion, of the frame buffer designated by said read pointer means, or so that, if said second signal is received first, the frame buffer designated by said read pointer means is at least two frame buffers ahead, in said round-robin fashion, of the frame buffer designated by said write pointer means.

24. (Currently Amended) An apparatus for transferring time slot data between ports of a switch, said apparatus comprising: ~~means for performing a method as claimed in claim 1~~

means for temporarily storing frames of slots received via an input port of a switch in three or more frame buffers;

means for providing a write pointer designating which one of said three or more frame buffers that is currently used for storing a frame of slots that is currently received via said input port;

means for providing a read pointer designating which one of said three or more frame buffers that is currently used for reading data to be transmitted from an output port of said switch;

means for advancing said write pointer into designating a next one of said three or more frame buffers in a round-robin fashion as a result of each occurrence of a first signal that is related to the start of a next frame of slots that is received via said input port;

means for advancing said read pointer into designating a next one of said three or more frame buffers in a round-robin fashion as a result of each occurrence of a second signal that is related to the start of a next frame of slots to be transmitted from said output port;

means for initiating said pointers by detecting which one of said first signal and said second signal that is received first in time and adjusting one or both of said pointers so that, if said first signal is received first, the frame buffer designated by said write pointer is at least two frame buffers ahead, in said round-robin fashion, of the frame buffer designated by said read pointer, or, if said second signal is received first, the frame buffer designated by said read pointer is at least two frame buffers ahead, in said round-robin fashion, of the frame buffer designated by said write pointer.

25. (Previously Presented) An apparatus as claimed in claims 23, 24, or 32, comprising: N input ports and M output ports; N write pointer means of the above mentioned kind, each one being provided to operate in relation to a respective input port; N storing means of the above mentioned kind, each one being provided to temporarily store frames of time slot data received at a respective input port; N×M read pointer means of the above mentioned kind, each one being provided to operate in relation to a respective input/output port combination; and N×M control means of the

above mentioned kind, each one being provided to operate in relation to a respective input/output port combination.

26. (Previously Presented) An apparatus as claimed in claim 23, wherein said second signal is synchronized according to said first signal in such a way that: a) said second signal is permitted to show an arbitrary phase difference in relation to the said first signal; b) said second signal is permitted to show an acceptable phase jitter in relation to said first signal; and c) said second signal is not permitted to show any persistent phase drift in relation to said first signal.

27. (Previously Presented) A method as claimed in claim 2, further comprising determining an entering into a state of possible frame buffer inconsistency caused by said write pointer being advanced into designating the same frame buffer as the frame buffer designated by said read pointer.

28. (Previously Presented) A method as claimed in claim 6, wherein said causing a buffer consistency violation even comprises affecting one or both of said pointers so that the frame buffer designated by said write pointer is at least two frame buffers ahead, in said round-robin fashion, of the frame buffer designated by said read pointer.

29. (Currently Amended) A method as claimed in claim 2, further comprising determining an entering into [[of]] a state of possible frame buffer inconsistency caused by said read pointer being advanced into designating the same frame buffer as the frame buffer designated by said write pointer.

30. (Previously Presented) A method as claimed in claim 12, wherein said causing a buffer consistency violation even comprises affecting one or both of said

pointers so that the frame buffer designated by said read pointer is at least two frame buffers ahead, in said round-robin fashion, of the frame buffer designated by said write pointer.

31. (Previously Presented) A method as claimed in claim 4, 7, 10, 13, 27, 28, 29, or 30 wherein said affecting of one or more of said pointers comprises affecting only said read pointer.

32. (Currently Amended) An apparatus for transferring time slot data between ports of a switch, said apparatus comprising: ~~means for performing the method as claimed in claim 17~~

means for temporarily storing frames of slots received via an input port of a switch in three or more frame buffers;

means for providing a write pointer designating which one of said three or more frame buffers that is currently used for storing a frame of slots that is currently received via said input port;

means for providing a read pointer designating which one of said three or more frame buffers that is currently used for reading data to be transmitted from an output port of said switch;

means for advancing said write pointer into designating a next one of said three or more frame buffers in a round-robin fashion as a result of each reception of a first signal that is related to the start of a next frame of slots that is received via said input port;

means for advancing said read pointer into designating a next one of said three or more frame buffers in a round-robin fashion as a result of each reception of a second

signal that is related to the start of a next frame of slots to be transmitted from said output port;

means for determining if one of said pointers is advanced into designating the same frame buffer as the frame buffer designated by the other one of said pointers, thereby causing a state of possible frame buffer inconsistency.

33. (Previously Presented) An apparatus as claimed in claim 23, 24, or 32, wherein said second signal is synchronized according to said first signal in such a way that: a) said second signal is permitted to show an arbitrary phase difference in relation to said first signal; b) said second signal is permitted to show an acceptable phase jitter in relation to said first signal; and c) said second signal is not permitted to show any persistent phase drift in relation to said first signal.